

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 45 Hours
 Minimum Useful Time: 1.0 hour

Proposal Title: A CH Survey of the Diffuse Cloud MBM 53

ABSTRACT:

We propose to observe the CH 3335 MHz line (and the two satellite lines) in 44 lines of sight in the diffuse, high-latitude molecular cloud, MBM 53. For these lines of sight we have sensitive CO(1-0) and OH 18 cm data (the latter from Arecibo). We aim to determine how the CH 3335 MHz line compares to the other two tracers in regions of low extinction. This is necessary for gauging the efficacy of CH as a dark molecular gas tracer. Any detections of the CH line will allow us to determine N(H₂) which will, in turn, allow us to derive the OH abundance and to calibrate the CO-H₂ conversion factor, also known as X(CO) or the X-factor. We request 45 hours of telescope time to allow us to detect CH emission in regions with visual extinction less than 1 magnitude.

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

S-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned